

What is claimed is:

- 1 1. A method of improving data transfer in a virtual network, comprising steps of:
 - 2 allocating one or more outbound packing buffers for each of a plurality of particular network addresses;
 - 4 packing outbound data packets into appropriate ones of the outbound packing buffers,
 - 5 according to a network address within a header of each outbound data packet; and
 - 6 transmitting each outbound packing buffer onto the virtual network in a single transmission operation.
- 1 2. The method according to Claim 1, wherein each of the particular network addresses is a next-hop address on the virtual network.
- 1 3. The method according to Claim 1, wherein the network address within the header is a next-hop address inserted into the header by a sending host.
- 1 4. The method according to Claim 1, wherein the virtual network is defined by a plurality of logical partitions within a single computing device.
- 1 5. A method of improving data transfer in a virtual network, comprising steps of:
 - 2 allocating one or more outbound packing buffers for each of a plurality of first network addresses, wherein each outbound packing buffer is logically divided into a plurality of frames, the
 - 3 frames being associated with second network addresses;

5 packing outbound data packets into selected frames of selected ones of the outbound
6 packing buffers, when a header of the outbound data packet to be packed specifies the first
7 network address and the second network address which correspond to the selected outbound
8 packing buffer and the selected frame; and
9 transmitting each outbound packing buffer onto the virtual network in a single
10 transmission operation.

1 6. The method according to Claim 5, wherein the first network address comprises a next-hop
2 address on the virtual network and the second network address comprises a final destination
3 address.

1 7. The method according to Claim 5, further comprising the steps of:
2 receiving a set of frames from the transmitting step; and
3 determining whether to forward the outbound data packets which are packed in each
4 frame by inspecting a first packet of the frame.

1 8. A system for improving data transfer in a virtual network, comprising:
2 means for allocating one or more outbound packing buffers for each of a plurality of
3 particular network addresses;
4 means for packing outbound data packets into appropriate ones of the outbound packing
5 buffers, according to a network address within a header of each outbound data packet; and
6 means for transmitting each outbound packing buffer onto the virtual network in a single

7 transmission operation.

1 9. The system according to Claim 8, wherein each of the particular network addresses is a
2 next-hop address on the virtual network and the network address within the header is a next-hop
3 address inserted into the header by a sending host.

1 10. The system according to Claim 8, wherein the virtual network is defined by a plurality of
2 logical partitions within a single computing device.

1 11. A system for improving data transfer in a virtual network, comprising:
2 means for allocating one or more outbound packing buffers for each of a plurality of first
3 network addresses, wherein each outbound packing buffer is logically divided into a plurality of
4 frames, the frames being associated with second network addresses;

5 means for packing outbound data packets into selected frames of selected ones of the
6 outbound packing buffers, when a header of the outbound data packet to be packed specifies the
7 first network address and the second network address which correspond to the selected outbound
8 packing buffer and the selected frame; and

9 means for transmitting each outbound packing buffer onto the virtual network in a single
10 transmission operation.

1 12. The system according to Claim 11, wherein the first network address comprises a next-
2 hop address on the virtual network and the second network address comprises a final destination

3 address.

1 13. The system according to Claim 11, further comprising:

2 means for receiving a set of frames from the transmission; and

3 means for determining whether to forward the outbound data packets which are packed in

4 each frame by inspecting a first packet of the frame.

1 14. A computer program product for improving data transfer in a virtual network, the

2 computer program product embodied on one or more computer readable media and comprising:

3 computer readable program code means for allocating one or more outbound packing

4 buffers for each of a plurality of particular network addresses;

5 computer readable program code means for packing outbound data packets into

6 appropriate ones of the outbound packing buffers, according to a network address within a header

7 of each outbound data packet; and

8 computer readable program code means for transmitting each outbound packing buffer

9 onto the virtual network in a single transmission operation.

1 15. The computer program product according to Claim 14, wherein each of the particular

2 network addresses is a next-hop address on the virtual network and the network address within

3 the header is a next-hop address inserted into the header by a sending host.

1 16. The computer program product according to Claim 14, wherein the virtual network is

2 defined by a plurality of logical partitions within a single computing device.

1 17. A computer program product for improving data transfer in a virtual network, the
2 computer program product embodied on one or more computer readable media and comprising:
3 computer readable program code means for allocating one or more outbound packing
4 buffers for each of a plurality of first network addresses, wherein each outbound packing buffer is
5 logically divided into a plurality of frames, the frames being associated with second network
6 addresses;

7 computer readable program code means for packing outbound data packets into selected
8 frames of selected ones of the outbound packing buffers, when a header of the outbound data
9 packet to be packed specifies the first network address and the second network address which
10 correspond to the selected outbound packing buffer and the selected frame; and

11 computer readable program code means for transmitting each outbound packing buffer
12 onto the virtual network in a single transmission operation.

1 18. The computer program product according to Claim 17, wherein the first network address
2 comprises a next-hop address on the virtual network and the second network address comprises a
3 final destination address.

1 19. The computer program product according to Claim 17, further comprising:
2 computer readable program code means for receiving a set of frames from the
3 transmission; and

4 computer readable program code means for determining whether to forward the outbound
5 data packets which are packed in each frame by inspecting a first packet of the frame.

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